

Isolated Ordered Regions (IOR) Prefetching and Page Replacement

Abstract

The concept of isolated ordered regions to maintain coordinates of nodes is used by associating each node with coordinates relative to a containing region. Modifications to nodes within a region only affect the nodes in that region, and not nodes in other regions. Traversals that retrieve information from the nodes can rebase the coordinates from their containing region and return with a total order. Access patterns and usage are used to recognize and prefetch pages. The probability of revisiting traversed nodes are identified and pages in a bufferpool are replaced based upon the identified probabilities (e.g., replacing pages with the least probability of a revisit).